

Logical Empiricism

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CONTEMPORARY

PERSPECTIVES

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This book is dedicated to the memory of

Wesley C. Salmon

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The Methods of the *Tractatus*

Beyond Positivism and Metaphysics?

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The Difficulty of the *Tractatus*

The *Tractatus* may well be the most difficult philosophical book written in this century. Two facts conspired to produce this result: The thoughts in it are very hard to explain—we are told; and Wittgenstein was singularly uninterested in or incapable of explaining his views to others. Almost everything he wrote was in the nature of a diary, a record of his thoughts; a conversation with himself or with God—hence, he did not feel the need to meet a potential interlocutor even halfway. (Coffa 1991, 142)

Despite the legendary difficulty of Wittgenstein's *Tractatus Logico-Philosophicus*, it has attracted an extraordinary variety of interpretations in the eighty years since its publication. Among the leading alternatives are readings that make epistemology, ontology, logic, semantics, ethics, religion, or mysticism central; construals of the text as realist, idealist, solipsist, phenomenalist, physicalist, or neutral monist; and those that identify Kant, Schopenhauer, Kierkegaard, Frege, Russell, or Carnap as providing the correct approach with which to understand the book. Moreover, the list barely begins to indicate the variety of conflicting approaches that have been seriously canvassed. Far from deterring interpreters, the text's extreme brevity and difficulty and the lack of a single authoritative interpretation have made it easier for every kind of reader to make his or her philosophical projects the key to understanding the book.

The conviction that it must be possible to give a single coherent exposition of the book's doctrines or its method is, I believe, an illusion. In *Wittgenstein on Mind and Language* I examine the conflicting impulses that shaped the composition of the *Tractatus* and the different readings that Wittgenstein himself gave on a number of subsequent occasions (Stern 1995, chaps. 1–3, 6). While the preface affirms that he had found “on all essential points, the final solution of the problems” of philosophy, the solutions he provided were extremely schematic. A large part of what makes the *Tractatus* such a fascinating and elusive book is that it is the product of two opposed and unstable forces, both of which are present in the preface. On the one hand, its author had a metaphysical vision: the definitive solution to the leading problems of philosophy. On the other hand, he was gripped by an equally powerful antimetaphysical drive, the aim of drawing a limit to language and to philosophy. Wittgenstein's philosophy is the product of two tendencies, one of them antipositivistic and the other in a more subtle way positivistic. They are not diametrically opposed to one another. But there is great tension between them: “Each of the two forces without the other would have produced results of much less interest. . . . But together they produced something truly great” (Pears 1986, 197–98, on the later philosophy). Because of this unresolved conflict between Wittgenstein's metaphysical and antimetaphysical tendencies in the *Tractatus*, one can only give a unified and systematic interpretation of the book if one carefully selects and construes the appropriate passages.

Nevertheless, the history of *Tractatus* interpretation is for the most part a history of wishful thinking, each successive group of interpreters seizing on the passages they have found most interesting in order to reconstruct the doctrines they knew must be there. My principal concern in this chapter is the role of problems of philosophical method in the interpretation of Wittgenstein's philosophy. If we take a step back from the arguments about what Wittgenstein really meant by the *Tractatus*, we will see that there is much to be learned about the book from the very fact that it has given rise to such diametrically opposed interpretations.

A Brief History of *Tractatus* Reception

The development of orthodox views about the method and subject matter of the *Tractatus* over the past eighty years roughly parallels broader trends in analytic philosophy over the same period. We can distinguish five principal phases in the development of *Tractatus* interpretation. The following list provides a name for each approach, a concise summary, the date at which the approach enters the literature, and references to some of the influential early expositions of that interpretation.

1. The logical atomist reading: a book on logic in the tradition of British empiricism, 1920s onward (Russell 1922; Ramsey 1923).
2. The logical positivist reading: the book that inspired the antimetaphysical scientific worldview of the Vienna Circle, 1930s onward (Neurath, Carnap, and Hahn 1929; Schlick 1930).
3. The metaphysical reading: a book that argues for a metaphysical system, based on a theory of logic and meaning, 1960s onward (Anscombe 1959; Stenius 1960).
4. The irrationalist reading: a book that advocates an ethical or religious worldview, 1970s onward (Engelmann 1968; Janik and Toulmin 1973).
5. The therapeutic reading: a book that rejects all philosophical doctrine, 1980s onward (Winch 1987; Diamond 1991a).

Obviously, this rough-and-ready chronology of the leading developments in *Tractatus* interpretation, set out in more detail below, is an oversimplification. While most work does belong in one of these categories, there are exceptions that resist this classification or make use of more than one of these approaches. Furthermore, while each successive phase has ushered in new ways of reading the book, previous approaches still have considerable currency; in particular, the metaphysical reading remains the most widely accepted approach. For instance, Alberto Coffa's history of the semantic tradition, the source of the quotation at the beginning of section one, provides a metaphysical reading of the *Tractatus*, while explaining the logical positivist construal as the product of Wittgenstein's conversations with the Vienna Circle.

For the first ten years after the *Tractatus*'s publication, most commentators followed the lead given by Russell's introduction to the *Tractatus* and Ramsey's review of the book for *Mind*, approaching the book as a development of Russell's work on logical atomism and as a contribution to the philosophy of logic and mathematics. While this approach was eclipsed during the heyday of logical positivism, subsequent reappraisals of Russell's philosophy have led, in turn, to fresh ways of thinking about what Wittgenstein could have learned from Russell (Pears 1967; Marion 1998; Landini 2000).

During the second phase, which lasted from the early 1930s to the 1950s, the *Tractatus* was usually read as a work of neopositivism, a contribution to the verificationist and antimetaphysical program of the Vienna Circle. Following Schlick and Carnap's lead, the logical positivists found inspiration in the central role the book gave to the distinction between sense and nonsense, its reliance on Russellian and Fregean logic, and its dismissal of most previous philosophy as cognitively empty. The *Tractatus* provided them with an account of the nature of language that showed how traditional philosophy is the result of conceptual confusion. By demarcating meaningful from meaningless discourse, the book thereby exposes

the nonsensicality of metaphysics. In particular, they took the logico-semantic doctrines they found there as a point of departure for their own work: a semantic account of a priori truth and a verificationist theory of empirical meaning (Coffa 1991; Friedman 1999). While the verification principle is never explicitly mentioned in the *Tractatus*, Wittgenstein did stress it in his discussions with members of the Vienna Circle and in his writings from the early 1930s. On the other hand, the logical positivists rejected the central role that the *Tractatus* gives to the distinction between showing and saying. Like Russell, Carnap found Wittgenstein's arguments for the impossibility of a semantic theory unconvincing, arguing that whatever could not be stated about a language using the resources available within that language could always be expressed within a suitable metalanguage.

In the 1960s the logical positivist reading fell out of favor with the next generation of readers, who inaugurated the third phase of *Tractatus* interpretation by rediscovering the Kantian, Fregean, and logico-metaphysical aspects of the book. The positivist reading was rarely given a close examination; instead, it was dismissed out of hand as obviously partisan and question begging. It was pointed out, as if it sufficed to refute the logical positivist reading, that there was almost no discussion of epistemology in the *Tractatus*, but a great deal of metaphysics. The Vienna Circle—and the Wittgenstein who met with them in the late 1920s and early 1930s—had read into it a positivistic epistemology and a verificationist semantics that is not to be found there. Furthermore, it is hard to maintain a consistent position on the emptiness of all philosophical statements: even if the positivist has no trouble with the idea that neither Hegel nor Heidegger succeeds in asserting anything, most positivists still maintain that positivism itself is not simply cognitively empty. Consequently, the metaphysical reading arose as a reaction to these perceived failings on the part of the positivistic approach. (For some provocative discussion of these issues, see Conant [2002] and Gunnarsson [2001]).

According to the metaphysical reading, the positivists' emphasis on the role of the distinction between sense and nonsense, and on semantic theorizing, had led them to overlook the full significance of the distinction between showing and saying, between the form and content of our language. Strictly speaking, what the book allows us to say is in line with the positivist tradition. Still, while metaphysical doctrines cannot, according to the *Tractatus*, be stated, they can be shown. This amounts to accepting the positivistic view that Wittgenstein draws limits to what can be said and relegates what cannot be said to silence. However, it adds the crucial qualification that the limits are drawn in order to show what cannot be said, that the unsayable is still graspable, in some sense, even if it is unsayable. There are certain insights expressed in his words that cannot be directly stated, and the attempt to do so inevitably leads to nonsense. Nevertheless, these insights can be expressed indirectly; the nonsense does succeed in showing what cannot be said. In

this way, the book distinguishes between two kinds of nonsense: empty nonsense, the misleading kind of nonsense, and deep nonsense, the illuminating kind. While the former belongs on the Humean bonfire, Tractarian nonsense is philosophically valuable. The book that Carnap and his colleagues had embraced as providing the blueprint for a scientific worldview was actually a thinly disguised metaphysical treatise. A letter Wittgenstein wrote to Russell in 1919, replying to Russell's first questions about the book, provides strong prima facie support for this criticism.

Now I'm afraid you haven't really got hold of my main contention, to which the whole business of logical prop[osition]s is only a corollary. The main point is the theory of what can be expressed (gesagt) by prop[osition]s—i.e. by language—(and, which comes to the same, what can be thought) and what can not be expressed by prop[osition]s, but only shown (gezeigt); which, I believe, is the cardinal problem of philosophy. (Wittgenstein 1995, 124)

Thus, the distinction between showing and saying became the key to understanding the book, although there was very little agreement about the precise nature of the logical and metaphysical doctrines to be found there. Given that the *Tractatus* says so little about the nature of objects, and Wittgenstein himself entertained a variety of different views, it is hardly surprising that able interpreters were able to find arguments that supported almost any ontology there. The distinction between showing and saying permits the interpreter to hold that while all sorts of doctrines are not actually said in the text, they are nevertheless shown. Thus, everything that is explicitly excluded can be let in the back door, as implicitly shown. This creates enormous exegetical leeway: the question as to precisely what is supposed to be shown by the *Tractatus* has been the point of departure for a great deal of disagreement. In the wake of the publication of the *Philosophical Investigations*, the *Tractatus* was also sifted for evidence of the views that Wittgenstein must have been refuting in his later work. If the later Wittgenstein was a critic of metaphysical theories, and the *Tractatus* and *Investigations* were diametrically opposed, then it made sense to look for the theories Wittgenstein criticized in the *Investigations* in the text of the *Tractatus*. Leading expositions of a metaphysical reading include the work of Hacker (1972, 1996), Pears (1986, 1987), Hintikka and Hintikka (1986), McGuinness (1988), and Malcolm (1986).

Initially, the publication of the three pre-*Tractatus* notebooks from 1914 to 1916 provided grist for the metaphysical mill. But the extended discussion of ethical and religious themes in the last notebook helped to redirect readers' attention to the question of their place in what had been regarded as an austere analytical text. Paul Engelmann, an old friend of Wittgenstein's who had known him during the First World War, argued that the book should ultimately be seen as a contribution to ethics. His case gained strong support from another letter of Wittgenstein's. This

one was sent to Ludwig von Ficker, an editor who he had hoped might be persuaded to publish the *Tractatus*:

The book's point is an ethical one. I once meant to include in the preface a sentence which is not in fact there now but which I will write out for you here, because it will perhaps be a key to the work for you. What I meant to write, then, was this: My work consists of two parts: the one presented here plus all that I have *not* written. And it is precisely this second part that is the important one. My book draws limits to the sphere of the ethical from the inside as it were, and I am convinced that this is the *ONLY rigorous* way of drawing these limits. In short, I believe that where *many* others today are just *babbling*, I have managed in my book to put everything firmly in place by being silent about it. And for that reason, unless I am very much mistaken, the book will say a great deal that you yourself want to say. Only perhaps you won't see that it is said in the book. For now, I would recommend to you to read the *preface* and the *conclusion*, because they contain the most direct expression of the point of the book. (Engelmann 1967, 143–44)

Engelmann's ethical interpretation of the *Tractatus* was taken up and popularized by Janik and Toulmin (1973). Their book sparked a fourth, irrationalist, phase of *Tractatus* interpretation, on which the book's argumentative aspects were subordinated to the broader goal of advancing an ethico-religious vision. Broadly speaking, such readings are still within the overall framework of the metaphysical interpretation: they look for a hidden doctrine that cannot be stated but is implicitly present. But they shifted the interpretive focus from explaining how certain ontological and semantical doctrines are *shown* (*zeigen*) by the logic of our language to the questions of how religious, ethical, or mystical insights *show themselves* (*sich zeigen*). Given that the book says even less about ethics, God, and the mystical than it does about the nature of objects, it is hardly surprising that these interpreters arrived at extremely diverse conclusions. Rather than supplanting the broad consensus among analytic philosophers that the book should be read as a metaphysical treatise, this approach instead had the effect of making the book attractive to a readership with little interest in logical analysis. (For a complementary history of these initial stages of *Tractatus* reception, see Frongia and McGuinness [1990, 1–38].)

In recent years, Cora Diamond, James Conant, Warren Goldfarb, Tom Ricketts, and others, inspired in part by earlier work by Rush Rhees and Peter Winch, have argued that the positivist, metaphysical, and irrationalist readings of the *Tractatus* are equally mistaken. Instead, they argue, the book belongs to the genre of anti-philosophical therapy: its aim is to liberate its readers from all substantive philosophical views. On this construal of the *Tractatus*, Wittgenstein first sets up the most plausible philosophical views that he can and then knocks them down. The passages that appear to set out the standard positivist, metaphysical, ethical, and

religious views are there to draw us in, by setting out views that we will ultimately be led to recognize as nonsense. The real message of the *Tractatus*, they contend, is that *all* philosophy, including the philosophy ostensibly presented and endorsed within the *Tractatus* itself, is simply nonsense.

Beginning with the question of the relationship of Wittgenstein's *Tractatus* to the work of Frege, Diamond has instigated a rethinking of its overall relationship to the analytic tradition. Diamond's therapeutic reading is motivated by her conviction that we must take Wittgenstein at his word when he says that philosophy is nonsense. Throughout Wittgenstein's writings, she is struck by Wittgenstein's "insistence that he is not putting forward philosophical doctrines or theses; or by his suggestion that it cannot be done, that it is only through some confusion one is in about what one is doing that one could take oneself to be putting forward philosophical doctrines or theses at all" (1991, 179). The importance Diamond attaches to this point about Wittgenstein's way of doing philosophy can hardly be overstated. As she puts it, "there is almost nothing in Wittgenstein which is of value and which can be grasped if it is pulled away from that view of philosophy" (1991, 179). In sharp contrast with those irrationalist interpreters who see Wittgenstein's antipathy to philosophical argumentation as arising out of his cultural or ethical convictions, Diamond argues that Wittgenstein's conception of nonsense arises out of a far-reaching engagement with Frege's writing on the philosophy of language and logic. On the therapeutic reading, there is a much greater continuity between the early and the late Wittgenstein than is usually supposed, for their Wittgenstein was always deeply skeptical of the idea that philosophy could arrive at any kind of a positive doctrine. Instead, the principal change between his early and his later work was that he gave up the idea that language has an essence, a necessarily shared structure, which could be given a systematic and definite analysis.

Diamond's most detailed exposition of her reading of Wittgenstein and Frege is to be found in "Throwing Away the Ladder: How to Read the *Tractatus*" in *The Realistic Spirit: Wittgenstein, Philosophy, and the Mind* (1991). Goldfarb (1997) gives an excellent introduction to Diamond's account of the role of nonsense in philosophy, and Conant (2002) and Gunnarsson (2001) provide valuable and complementary explorations of Diamond's nonsense-oriented reading of the *Tractatus*. When this paper was written in 1999, the therapeutic approach had only begun to receive a critical response amongst Wittgenstein scholars (notably in Goldfarb [1997], Lovibond [1997], Reid [1998], and McGinn [1999]). However, it had not yet gained much attention from a wider audience, perhaps because this interpretation has mostly been advanced in specialized journal articles and book chapters. With the publication of Crary and Read's anthology, *The New Wittgenstein* (2000) and the extensive debate this fueled at the following year's Kirchberg Wittgenstein Symposium (Haller and Puhl 2001), the implications of a therapeutic reading of the *Tractatus*

have since attracted a great deal of attention. (Owing to limited space, I have not incorporated references to much of this material here. For further discussion of recent developments in this controversy and related issues, see Stern [forthcoming b].)

Hilary Putnam (1994) and John McDowell have spoken of a “recoil” effect in the development of opposed philosophical positions: philosophical positions often emerge as the result of denying what is implausible about a preceding view. Each camp overreacts to the other, until the result is two equally untenable and extreme positions. Similarly, philosophers often take it for granted that anyone who rejects their own view must be adopting a diametrically opposed position. Materialists insist that everything is matter; idealists deny that anything is matter. Platonism insists that a realm of unchanging forms must exist; conventionalists deny that such a realm is possible. Putnam rightly characterizes the later Wittgenstein’s distinctive approach to philosophy as a matter of identifying the presuppositions that all sides take for granted in these disputes. However, very few of the philosophers Wittgenstein criticizes understand his writing in this way. Accustomed to the recoil principle, they immediately apply it to Wittgenstein: he attacked mind-body dualism, so he must have been a behaviorist; he attacked platonism about mathematics, so he must have been a conventionalist. The recoil effect is also at work within the world of *Tractatus* interpretation. The positivist reading makes Wittgenstein’s opposition to metaphysics by means of a logically ideal language a guiding principle, while the metaphysical reading attributes a systematic doctrine to him. Both the positivistic and metaphysical readings approach Wittgenstein’s views as the product of a rational train of argument from first principles, while the irrationalist considers the argument of the book to be epiphenomenal, a way of attracting attention to its existential convictions. The therapeutic reading makes an even more radical break with its predecessors, denying that there is any positive philosophical view in the book at all. Defenders of the metaphysical reading respond that the therapeutic reading is a post-modernist travesty. Each successive interpretation roundly condemns the basic methodological tenets taken for granted by its predecessors, and its opponents respond in kind. In the next section, I take a step back from this debate and ask what we can learn from it.

The Methods of the *Tractatus*

The most basic issue that divides interpreters of the *Tractatus* is the question of the book’s philosophical method: how does it go about doing what it does? The question is particularly prominent at the very beginning and end of the book, where the issue of method is in the foreground.

The foreword begins by saying that it “will perhaps only be understood by those who have themselves already thought the thoughts which are expressed in it.” It goes on to claim that the problems of philosophy rest on a mistaken way of putting those problems, a misunderstanding of the logic of our language. The whole sense of the book, Wittgenstein says, could be summed up as follows: “What can be said at all can be said clearly; and whereof one cannot speak thereof one must be silent.” Accordingly, the aim of the book is to “draw a limit to thought,” or, more carefully put, to draw a limit “to the expression of thoughts” from within, for the notion of something that lies beyond that limit is incoherent. Talk of drawing a limit to thought presupposes that we can think both sides of the limit, which is precisely what Wittgenstein denies. “The limit can, therefore, only be drawn in language and what lies on the other side of the limit will be simply nonsense.”

The final three remarks of the *Tractatus* reprise and expand upon these themes in the following words:

The right method of philosophy would be this. To say nothing except what can be said, i.e. the propositions of natural science, i.e. something that has nothing to do with philosophy; and then always, when someone wished to say something metaphysical, to demonstrate to him that he had given no meaning to certain signs in his propositions. This method would be unsatisfying to the other—he would not have the feeling that we were teaching him philosophy—but it would be the only strictly correct method.

My propositions are elucidatory in this way: he who understands me finally recognizes them as nonsense, when he has climbed out through them, on them, over them. (He must so to speak throw away the ladder, after he has climbed up on it.)

He must get over these propositions; then he will see the world aright.

Whereof one cannot speak, thereof one must be silent. (*Tractatus* 6.53, 6.54 and 7)

But how are we to understand a book that ends by saying it is nonsense, a ladder that must be climbed and then thrown away? On the one hand, much of the rest of the text of the *Tractatus* appears, at least to its logical atomist, logical positivist, metaphysical, and even irrationalist readers, to be advocating any number of distinctive and debatable philosophical doctrines. On the other hand, these “framing” passages, which begin and end the book, are quite insistent that all philosophical doctrines must be discarded if one is to see the point of the book. Most expositors have found themselves driven to agree with Max Black that we must discard the frame if we are to do justice to the rest of the book, although few are quite as forthright about it as he was. Black’s commentary on *Tractatus* 6.53, 6.54, 7, entitled “How the *Tractatus* Is to Be Understood,” begins with the following paragraph:

The book ends with celebrated and much-quoted statements that seem to accept utter defeat. The “right method of philosophy” would be to abstain from positive remarks, contenting oneself with demonstrating that every attempt to “say something metaphysical” results in nonsense. And the remarks of the *Tractatus* itself must be recognized as strictly nonsensical (*unsinnig*), to be abandoned once their true character has been revealed. The rest is silence. It may be noticed that in the preface to the book, Wittgenstein has quoted the very last remark (7) as part of the “whole sense of the book”: (What can be said can be said clearly and *poi basta*). The conclusion is profoundly unsatisfactory. That we understand the book and learn much from it is not to be seriously doubted. And the book’s own doctrine of meaning and of the character of philosophical investigation must square with this. Wittgenstein may be too willing, at the very end, to equate communication exclusively with “saying”. There is much on his own principles that can be shown, though not said. There is much in the book that he has shown: this ladder need not be thrown away. (Black 1964, 376–77)

Black denies that we really are supposed to throw away the ladder, because the ladder language of the *Tractatus* can lead to philosophical insight even as it commits us to denying that anything can be said on the topic. In much the same spirit of irritation and admiration, Gustav Bergmann wrote the following: “He did in fact propose an ideal language; only, he forbade *de jure* all discourse about it, that Moorean discourse, if I may so call it, which is the heart of the philosophical enterprise. *De facto*, as Russell observed, he managed to say a good deal about his ideal language” (Bergmann 1967, 49). Because the book does appear to be advocating and arguing for philosophical doctrines, most readers have charitably interpreted the opening and closing instructions as not being meant entirely seriously.

Diamond’s reply is that we must take the preface and closing remarks of the *Tractatus*—the “frame” of the book—as the point of departure for interpreting the book as a whole. Her response to those who, like Black, refuse to let go of the Tractarian ladder, is that this amounts to a form of intellectual cowardice, “chickening out” (Diamond 1991a, 181). For if one says on the one hand that the book really is nonsense but on the other hand reads it as advocating any doctrine, explicit or implicit, then one lacks the courage of one’s convictions. Diamond aptly observes that the problem of how one is to make sense of the method of the *Tractatus* is “particularly acute” in *Tractatus* 6.54:

Let me illustrate the problem this way. One thing which according to the *Tractatus* shows itself but cannot be expressed in language is what Wittgenstein speaks of as *the logical form of reality*. . . . What exactly is supposed to be left of that, after we have thrown away the ladder? Are we going to keep the idea that there is something or other in reality that we gesture at, however badly, when we speak of “the logical form of reality”; so that *it, what we were gesturing at, is there but cannot be expressed in words?*

That is what I want to call chickening out. What counts as not chickening out is then this, roughly: to throw the ladder away is, among other things, to throw away in the end the attempt to take seriously the language of “features of reality”. . . . the notion of something true of reality but not sayably true is to be used only with the awareness that it itself belongs to what has to be thrown away. (Diamond 1991a, 181–82)

Warren Goldfarb (1997, 64) has proposed that we substitute the term “irresolute” for “chicken out.” Like Diamond’s expression, it captures the idea that a Black-style reading involves a certain kind of weakness—one wants to have one’s cake and eat it too, wants to recognize that Wittgenstein says that philosophy is nonsense, but also make sense of the content of the *Tractatus*. Using the term “irresolute” is not only less tendentious; it also has a convenient opposite: Diamond’s approach becomes a “resolute” reading. Diamond has endorsed this turn of phrase, noting that it captures the “failure-of-courage element” prominent in her talk of “chickening out” while also emphasizing another element, namely “a kind of dithering, which reflects not being clear what one really wants, a desire to make inconsistent demands” (1997, 98). This use of morally charged epithets makes finding the right philosophical position sound as if it were a matter of having enough moral fiber or a stiff enough upper lip. In this respect, it is uncannily akin to the role played by “resoluteness” (*Entschlossenheit*) in Heidegger’s early philosophy. In *Being and Time*, Heidegger (1996, §60, 273ff) promotes resoluteness, the decisive taking of a stand, as the touchstone for an authentic life and the only way of getting beyond the meaningless alternatives offered by conventional conformity. Heidegger, confronted by the seeming impossibility of giving a rational justification of the right way to live, embraces resoluteness; Diamond and Goldfarb’s Wittgenstein, facing an analogous nihilism about philosophy, likewise makes a virtue of necessity and encourages us to have the courage of his convictions.

However, the “frame” of the *Tractatus* cannot, taken by itself, resolve the question of the book’s method. For, as we have already seen, it is very easy to read those opening and closing passages in ways that are compatible with the older interpretations. Logical atomist, logical positivist, and metaphysically minded readers all have ways of reinterpreting that frame in light of the other commitments they find in the remainder of the text. Indeed, the quickest way of doing justice to the antiphilosophical frame is an irrationalist reading on which the argumentative passages are a prelude to existential convictions that cannot be rationally defended.

If we are to read the frame in the way Diamond would have us do, then we will also have to find a way of reading the rest of the book that explains its role in the therapeutic project. First, there are those passages within the book that appear to be part of the frame rather than the ladder, such as those passages that set out the conception of sense and nonsense that Diamond considers its central contribu-

tion. One of these is the formulation of the Fregean context principle in *Tractatus* 3.3—"Only propositions have sense; only in the nexus of a proposition does a name have meaning"—and the remarks that follow it (Diamond 1991a, 112). Another such passage is the discussion of the nature of logic that begins with *Tractatus* 5.47, in which Wittgenstein argues that "there is no such thing as allowing a sign to figure in a *wrong* combination with other signs" (Diamond 1991a, 128; see also 196–97). Diamond does not explicitly include *Tractatus* 3.03—"Thought can never be of anything illogical, since, if it were, we should have to think illogically"—among those parts of the book that do state its method. However, Conant does so, and it certainly seems to be part of an expository discussion of one of the main claims of the preface. Conant (1993, 2002) also makes a strong case for including 4.112 among those parts of the text of the book that should be included under the rubric of "framing" passages: "Philosophy aims at the logical clarification of thoughts. Philosophy is not a body of doctrine but an activity. A philosophical work consists essentially of elucidations. Philosophy does not result in 'philosophical propositions', but rather in the clarification of propositions. Without philosophy thoughts are, as it were, cloudy and indistinct: its task is to make them clear and to give them sharp boundaries" (*Tractatus* 4.112).

The notion of "elucidation," identified in 4.112 as the essential component of genuine philosophical activity, is left almost entirely unexplained in the *Tractatus*. In 3.263, elucidations are glossed as propositions containing primitive signs, propositions that allow us to display their meaning once those signs are understood. The positivists took this as intimating an entry point for epistemology in the Tractarian system; the therapeutic reading, stressing 4.112 and 6.54, construes "elucidations" as akin to the *Investigations's* "reminders" about the use of language. The role of elucidation in the therapeutic reading is oddly similar to the role of "objects" in metaphysical readings or "the mystical" in irrationalist readings: a notion that is barely specified in the text of the *Tractatus*, yet supposedly does an enormous amount of philosophical work. We can already begin to see how the therapeutic reading's apparently clear-cut appeal to the method set out in the "frame" of the *Tractatus* is rapidly qualified by the need to introduce additional passages from the text of the book that also belong to the frame. Furthermore, this reading faces the problem that the preface includes the claim that the "truth of the thoughts communicated here seems to [Wittgenstein] unassailable and definitive," words which are more in the spirit of the transitional ladder language than the frame (*Tractatus* 29; compare Reid 1998, 100, and Hacker 2000, §3).

Much of what has been written in support of the therapeutic reading has had a one-sided methodological focus. Instead of giving a close reading of the philosophical arguments of the *Tractatus*, and elucidating how to see them as nonsense,

their principal concern has been the "framing" passages. However, by far the most challenging task faced by the therapeutic reading is to give a detailed account of how the remainder of the *Tractatus* serves its supposedly therapeutic goals. As Hacker puts it, "they pay no attention to the other numerous passages in the *Tractatus* in which it is claimed that there are things that cannot be said but are shown by features of the symbolism" (Hacker 2000, §3).

Certainly, the text of the *Tractatus* has struck many of the best philosophers of the last century as a rich source of philosophical arguments for substantive views. In outline, the therapeutic response is quite clear: the arguments and views in question are present in the text of the *Tractatus*, but they were put there in order to help the reader see how to give them up. Conant (2002) provides an extended exposition of this interpretation of previous readings of the *Tractatus*. He compares the positivist and metaphysical readings with the two "voices" that Stanley Cavell (1979, 1996) finds in the *Investigations's* dialogues. He connects the positivist reading with the voice of the plain, or the ordinary, on the one hand, and the metaphysical reading with voice of temptation, the voice that leads us into philosophical theorizing, on the other. The voice of the ordinary is content with what we say in everyday circumstances and is critical of the philosophical theories that the other voice tempts us with. Rather than reading Wittgenstein as an adamant defender of ordinary language, or as implicitly committed to a philosophical theory, Conant draws on Cavell's reading of the later Wittgenstein. He proposes that we read Wittgenstein as exploring the tensions between these views, helping us to climb "through them, on them, over them" (Wittgenstein 1922, 6.54), and so put them behind us. However, this is a large task, and one that has so far only been carried out in a piecemeal way (but see Diamond [1991a, 1991b, 1997] and Ricketts [1996] for some work in this direction). Perhaps the best way of approaching it is as an embryonic research program that will have to be judged by its results (compare Goldfarb 1997, 65–70). However, if one looks carefully at Wittgenstein's philosophical writing, one finds a number of incompatible methods. While I agree with Diamond and Conant that the text of the *Tractatus* can best be understood as the product of a conflict between the voice of temptation and the voice of the everyday, the metaphysician and the positivist, I part company with them when they assert that the author of the *Tractatus* was able to rise above that struggle.

Diamond's account helps us see just how Wittgenstein drew on Frege's work in the philosophy of logic in developing the conception of nonsense that plays such an important role in the *Tractatus*. But what is the status of this view of nonsense in the position she ultimately attributes to the *Tractatus*? One might think that this view, too, must be given up if we are to follow through on the purge of all doctrine the book supposedly advocates, but it is far from clear she is resolute about

taking this final step. If we must throw away the ladder and not keep our feet planted on the top rung, where are we going to stand? Of course, Diamond is insistent on the importance of resolutely throwing away the ladder, but the very fact that she takes the philosophy of language she finds in Frege and the *Tractatus* so seriously makes it clear that she is also very much in the business of ladder-climbing. As a result, Diamond's own reading is closer to the logical positivists' than she might care to admit. For, like Carnap, she reads the *Tractatus* as setting out an antimetaphysical theory of meaning that provides the basis for a rejection of all previous philosophy as nonsensical. Like Carnap, she sees the distinction between showing and saying as a part of the book that must ultimately be discarded. The crucial question in assessing the relationship of her reading to the logical positivists' is the extent to which she ultimately endorses the philosophical views about sense and nonsense that she finds in the *Tractatus*. To the extent that she does so, she remains within the positivist tradition. For she does rely on the Fregean context principle (*Tractatus* 3.3) and the resultant views about the nature of meaning, sense and nonsense. These provide the basis on which to argue that the *Tractatus* aims to show that the philosophical doctrines contained in it are, strictly speaking, nonsense. These Wittgensteinian arguments undermining the ontological and metaphysical doctrines the book appears to set out—about such matters as the nature of objects and properties or possibility and necessity—rely, in turn, on our accepting that Fregean view about the nature of language, logic, and nonsense.

On this construal of Diamond's interpretation, "nonsense" is not just an expression used to emphatically dismiss a view, but also a term of art that depends on a theory of meaning derived from her reading of Frege. In that case, the *Tractatus* does contain a metaphysical core, even on the Diamond reading. Like the logical positivists, she rejects certain metaphysical doctrines but is left with a minimal semantic theory. We throw away certain Tractarian doctrines (simples, realism) but keep others in order to do so (logical form, elucidation). These doctrines provide the basis for the Tractarian conception of philosophy as nonsense. As Lynette Reid puts it, "It might be that Wittgenstein's intention to do away with metaphysics about the world depends on a great deal of unacknowledged metaphysics about language" (Reid 1998, 108).

On the other hand, it may be that Diamond is ultimately no more attached to the "framing" Tractarian views about meaning and nonsense than the ontology and theology that other readers have found in the "body" of the text. This would make the therapeutic reading a form of Pyrrhonian skepticism, which makes use of philosophical argument in order to do away with philosophical argument. Although most exponents of the therapeutic reading do not discuss the Pyrrhonian connection, Wittgenstein would have been familiar with the ladder image from his read-

ing of Mauthner, one of the few authors cited in the *Tractatus* (4.0031): "Just as it is not impossible for the man who has ascended to a high place by a ladder to overturn the ladder with his foot after the ascent, so also it is not unlikely that the Sceptic after he has arrived at the demonstration of his thesis by means of an argument proving the non-existence of proof, as it were by a step-ladder, should then abolish this very argument" (Mauthner 1901, v. 1, 2, cited in Black 1964, 377).

Mauthner here summarizes the first use of the ladder simile in discussions of philosophical method at the end of the second book of Sextus Empiricus's *Against the Logicians*. In that passage, Sextus replies to the standard antiskeptical one-liner—that any proof that proof does not exist is self-refuting, or "banishes itself":

Yes, say they, but the argument which deduces that proof does not exist, being probative itself, banishes itself. To which it must be replied that it does not entirely banish itself. For many things are said which imply an exception. . . . And even if it does banish itself, the existence of proof is not thereby confirmed. For there are many things which produce the same effect on themselves as they produce on other things. Just as, for example, fire after consuming the fuel destroys also itself, and like as purgatives after driving the fluid out of the bodies expel themselves as well, so too the argument against proof, after abolishing every proof, can cancel itself also. And again, just as it is not impossible for the man who has ascended to a high place by a ladder to overturn the ladder with his foot after his ascent, so also it is not unlikely that the Sceptic after he has arrived at the demonstration of his thesis by means of the argument proving the non-existence of proof, as it were, by a step-ladder, should then abolish this very argument. (Sextus Empiricus 1935, II.479–81)

If we read the *Tractatus* along these lines, then the therapeutic reading turns out to be a variant of irrationalism, with the Pyrrhonian twist that it gives a rational argument for irrationalism, an argument that can be discarded once it has succeeded. (For further discussion of this issue, see Reid [1998, 105–8].) Just like Sextus Empiricus, Diamond may regard the Tractarian theory of nonsense as just one more rung on a ladder that must ultimately be discarded. In "Ethics, Imagination, and the Method of Wittgenstein's *Tractatus*," she appears to align herself with this irrationalist approach:

When I began to discuss Wittgenstein's remarks about ethics, I called them remarks about ethics, because the idea that there is no such thing as what they present themselves as, the idea that we are taken in by them in reading them as about ethics—that idea we cannot start with. So too the *Tractatus* itself. The reading it requires that it take us in at first, requires that it should allow itself to be read as sense, read as about logic and so on, despite not being so. What I have just said about the *Tractatus*' remarks "about ethics" goes then equally for its remarks about logic. (Diamond 1991b, 79)

Certainly there is no suggestion here that Wittgenstein's views about sense and nonsense are any more privileged than what he has to say about ethics or logic. Conant has expressed the same strongly resolute view: "the propositions of the entire work are to be thrown away as nonsense" (Conant 1989a, 274 n. 16). Warren Goldfarb raises a closely related issue when he asks whether there is not already some irresoluteness in Wittgenstein's use of "nonsense" as a term of criticism, for it presupposes certain "transitional" semantic views that are supposed to be discarded at the end of the *Tractatus*. Goldfarb's response is that "nonsense" should not be understood as a general term of criticism, but as a kind of shorthand for the particular ways of seeing how philosophical language falls apart when it is given a resolute push: "the general rubric is nothing but synoptic for what emerges in each case" (Goldfarb 1997, 71).

Diamond reads the image of throwing away the ladder as the key to understanding the *Tractatus* and uses it to attribute the philosophical methods of the *Investigations* to the author of the *Tractatus*. If this were so, one would expect the later Wittgenstein might have retained that image, or at least spoken positively of it. Instead, in a draft for a foreword, written in November 1930, in which he described himself as out of sympathy with what he called the "spirit of the main current of European and American civilization," and the values of the positivists, namely progress and constructive activity in science, industry, and architecture, he associated that spirit, and those values, with the image of climbing a ladder. Instead of aiming at progress, at trying to get somewhere else, Wittgenstein thought of himself as trying to understand where he was already:

I might say: if the place I want to get to could only be reached by way of a ladder, I would give up trying to get there. For the place I really have to get to is a place I must already be at now.

Anything that I might reach by climbing a ladder does not interest me.

One movement links thoughts with another in a series, the other keeps aiming at the same spot.

One is constructive and picks up one stone after another, the other keeps taking hold of the same thing. (Wittgenstein 1980, 7)

The *Tractatus* had been constructive, linking "thoughts with another in a series," and it was this aspect of his work that had attracted the Vienna Circle. If the author of the *Tractatus* had once thought of those constructions as a ladder language that would free his reader from the desire to climb ladders, he showed no sign of it in these remarks. Instead, he associated the image of a ladder with just that aspect of his earlier work that he now found most repugnant. Seven years later, shortly after writing the first version of the *Investigations*, Wittgenstein again

rejected the notion of climbing a ladder in very similar terms: "You cannot write anything about yourself that is more truthful than you yourself are. That is the difference between writing about yourself and writing about external objects. You write about yourself from your own height. You don't stand on stilts or on a ladder but on your bare feet" (Wittgenstein 1980, 33 [December 1937]).

In recognizing the plurality of methods in the *Tractatus*, and emphasizing that the *Tractatus* is best understood as a self-conscious response to the problem of finding a consistent philosophical method, the therapeutic approach represents a valuable step forward in *Tractatus* interpretation. But resolutely rejecting both positivism and metaphysics leads Diamond to a form of irrationalism: if the favored arguments are self-immolating, and we resolutely discard the ladder, we are left not only without any doctrine but also without any positive philosophical view at all.

The easiest and perhaps the only way to motivate the therapeutic reading is to read back the later Wittgenstein's methods into the ostensibly argumentative and analytic framework of his earlier work. While it is an overstatement to speak of this reading as giving us a "new Wittgenstein" (Crary and Read, 2000), it did come about as the result of applying the ideas of a number of influential interpreters of the later Wittgenstein, and it is almost inconceivable that such an interpretation would ever have arisen had Wittgenstein died in the early 1930s. (I say "almost" because Gunnarsson [2001] does so by imagining a reader who only knows the preface and the concluding paragraphs of the *Tractatus*.)

Diamond and Conant make much of the distinction between what is said in the text of the *Tractatus* and what its author meant by that text. They emphasize that this contrast is particularly clear in *Tractatus* 6.54, where Wittgenstein does not say that one must understand the propositions of the *Tractatus*, but that one must understand *him*: "he who understands me finally recognizes [my propositions] as senseless" (see Diamond 1991a, 19; 1991b, 57; Conant 1989b, 344–46; 1991, 145; 1995, 270, 285–86). However, the authorial voice that they can hear so clearly at this point is hardly unequivocal. For if we step away from their preferred reading of their preferred passages, there is no evidence that the person who wrote the book actually read it in this way. As Hacker (2000, §4) has documented at length, what Wittgenstein actually said about the *Tractatus*, both in his own writings and when he discussed the book with Engelmann, Russell, Ramsey, the Vienna Circle, and his Cambridge students is quite incompatible with the therapeutic reading. Rather than explaining his aims in therapeutic terms, he always talked about doctrinal matters: repeatedly insisting on the importance of the show/say distinction, reaffirming certain views and modifying others, stressing the unrecognized inconsistency in the notion of elementary objects in his later discussions, and so forth.

Wittgenstein himself never represents the *Tractatus* as therapeutic in nature; that is, he consistently spoke of the book as having advanced arguments and views about the nature of language and world, not as trying to show that those arguments and views were nonsensical. In particular, his philosophical writings from 1929–30 are the work of a philosopher trying to develop views he had come to see as requiring further development (Stern 1995, chap. 5 and sect. 6.1). It is hard to avoid the conclusion that Ludwig Wittgenstein was the first reader of the *Tractatus* to fail to appreciate its therapeutic character.

Adopting a resolute stance, or attributing it to the *Tractatus*—a distinction that therapeutic readings often slur over—may ensure a certain consistency, but it has a corresponding hermeneutic drawback, which is that it guarantees that one will misread an inconsistent text. On Diamond's reading, the author of the *Tractatus* had given up all philosophical theories: every doctrine that appears to be endorsed in its numbered propositions has been discarded by the end. While this is certainly what Wittgenstein tells us at the beginning and end of his book, it is not so clear that he was able to carry out this intention.

The later Wittgenstein's writings are an extended critique of the idea that philosophy can provide us with an objective vantage point—a “view from nowhere”—a privileged perspective that shows us the world as it really is. He tries to show the incoherence of that goal, and of the related project of transcending our particular circumstances in order to provide an objective verdict on our everyday activities or commitments. Prior to the emergence of the therapeutic reading, almost all interpreters of the *Tractatus*'s skeletal arguments have taken them to lead to some such Archimedian standpoint, even though there has been almost no agreement about what Wittgenstein's arguments were and what kind of verdict he was arguing for. The therapeutic reading offers us a way of cutting through this Gordian knot of exegetical controversy about Wittgenstein's early philosophy. It proposes a diametrically opposed construal of the *Tractatus*, namely as a self-deconstructing antiphilosophical activity, a construal that is congruent with the later Wittgenstein's critique of traditional philosophical argument. But this flies in the face of Wittgenstein's own insistence that he was arguing for specific philosophical doctrines in the *Tractatus*, and his commitment to views about logic, language, and the foundations of mathematics that he had developed on the basis of his reading of Frege and Russell. Recoiling from the dogmatic extremes of most previous *Tractatus* interpretation, Diamond ends up with an equally extreme reading, one that fails to do justice to the very irresoluteness about the possibility of traditional philosophy that is one of the strongest characteristics of Wittgenstein's earlier work.

This tension between dogmatism and skepticism is also present in the discussion of philosophical method in the *Philosophical Investigations*, where Wittgenstein

states that “the real discovery is the one that makes me capable of stopping doing philosophy when I want to. —The one that gives philosophy peace, so that it is no longer tormented by questions which bring *itself* into question. —Instead, a method is shown by examples; and the series of examples can be broken off” (Wittgenstein 1953, I §133; compare 1993, 194).

But his commitment to bringing philosophy under control was counterbalanced by the hold philosophy had over him. In a letter, Rush Rhees recalled a conversation with Wittgenstein that ended in the following way: “As he was leaving, this time, he said to me roughly this: ‘In my book I say that I am able to leave off with a problem in philosophy when I want to. But that's a lie; I can't’” (Hallett 1977, 230). Wittgenstein aimed to end philosophy, yet in doing so, he was continually struggling with philosophical problems. (For further discussion of these passages, see Stern 1995 chap. 1 §3, esp. 19 ff.)

Oddly, there are striking parallels here with current arguments in the sociology of science over how to interpret Wittgenstein, with the twist that these are arguments about how to read the later Wittgenstein. Whereas most philosophers have wanted to turn the *Tractatus* into a systematic defense of a philosophical doctrine, sociologists of science have wanted to turn the later Wittgenstein into a systematic defender of their preferred form of empirical social science. In effect, they have seen the later Wittgenstein as providing us with access to an external standpoint, lying beyond our ordinary practices, which will justify their particular way of studying science.

Chicken Wars

Both David Bloor and Harry Collins wrote books on the sociology of knowledge in the early 1980s that made prominent use of Wittgenstein. Those books set out a reading of Wittgenstein that has become the received view, albeit a contested one, within the sociology of scientific knowledge, commonly known as SSK. Bloor's *Wittgenstein: A Social Theory of Knowledge* (1983) argued that a naturalized Wittgenstein proved the basis for his “Strong Programme” in SSK, a scientific theory of scientific and mathematical knowledge as social constructions. The Strong Programme had already been set out in earlier work that also drew on Bloor's reading of Wittgenstein, principally “Wittgenstein and Mannheim on the Foundations of Mathematics” (1973) and *Knowledge and Social Imagery* (1976). Collins's *Changing Order* (1985) begins by invoking a Wittgenstein-inspired skepticism about rule-following in setting out his “empirical relativist” program for studying scientific practice. While they are certainly not the only sociologists of science who have

written on Wittgenstein, they have both emphasized the central place of Wittgenstein's treatment of rule-following in their respective arguments, and most of the subsequent discussion has been in response to their work. (However, see Phillips [1977] for an independent and contemporaneous Wittgensteinian sociology of knowledge.) Moreover, they are leading representatives of the two main styles of SSK that emerged in Britain in the 1970s: the macrosocial and more historical approach favored by Bloor and his colleagues at the University of Edinburgh, and Collins's and his coworkers' microsocal studies of scientific controversies, which were based until recently at Bath University.

Bloor's Strong Programme insisted that the sociology of science should not be confined to accounting for the institutional character of science, but should also account for the content and nature of scientific knowledge. Consequently, it proved to be a decisive moment in the formation of current approaches to the sociology of knowledge. Bloor's statement of the Strong Programme consists of the following four theses about the nature of an adequate sociology of knowledge:

1. It would be causal, that is, concerned with the conditions which bring about belief or states of knowledge. Naturally there will be other types of causes apart from social ones which will cooperate in bringing about belief.
2. It would be impartial with respect to truth and falsity, rationality or irrationality, success or failure. Both sides of these dichotomies will require explanation.
3. It would be symmetrical in its style of explanation. The same types of cause would explain, say, true and false beliefs.
4. It would be reflexive. In principle its patterns of explanation would have to be applicable to sociology itself. Like the requirement of symmetry this is a response to the need to seek for general explanations. (Bloor 1976, 7)

While philosophers usually pay little attention to the differences within SSK, and often equate the Strong Programme with SSK as a whole, the four theses are best understood as a point of departure rather than as a statement of a consensus. Most proponents of SSK reject the first thesis' commitment to a causal approach, conceiving of SSK either as an interpretive social science or as thick description that eludes systematic laws. Moreover, there has been much debate as to whether the fourth thesis' demand for reflexivity is appropriate and, if so, what it entails. However, what Collins has called the "central core" (Collins 1982, xi) of the Strong Programme, the theses of symmetry and impartiality, have become widely accepted within SSK. They have also been taken up within a number of other recent approaches to science, such as actor-network theory, feminist philosophy of science, and ethnomethodological studies of science that have distanced themselves from the specifically sociological approach characteristic of SSK.

By the early 1990s, Bloor and Collins had become canonical figures within SSK,

as evidenced by their prominent role in anthologies such as *Science as Practice and Culture* (Pickering 1992a). Indeed, their work has led to a debate within science studies between those who agree with Bloor and Collins's advocacy of a thoroughgoing sociology of science and those who want to supplement or replace traditional sociological methods, a debate that is often framed as being about Wittgenstein interpretation. Exponents of both sociological and postmodern approaches to science studies have invoked Wittgenstein's writing on rule-following and practice. This is a leading theme in *Science as Practice and Culture*, a collection of essays on the turn to practice in science studies, in which Wittgenstein is the most frequently cited author. Nearly half the book is devoted to two interrelated arguments about methodology and epistemology, both of which turn on the significance of Wittgenstein's work for the study of science. The first exchange begins with David Bloor's defense of the Edinburgh approach to SSK and Michael Lynch's ethnomethodological reply. The Lynch-Bloor debate is over Wittgenstein's views on rule-following and their implications for our understanding of scientific knowledge. Bloor defends his interpretation of Wittgenstein as outlining a naturalistic and sociological theory, while Lynch replies that Wittgenstein denied that one could give such a theory of rule-following, arguing that Wittgenstein's conception of rule-following leads to an ethnomethodological approach to science. The second exchange begins with a piece by Harry Collins and Steven Yearly defending the Bath approach. There are two replies to Collins and Yearly: Steve Woolgar champions a reflexive approach, while Michel Callon and Bruno Latour write from the standpoint of actor-network theory.

Let us start by considering some passages that indicate Wittgenstein's role in SSK: two from introductory books on SSK and one from a leading work in that field. In *Science: The Very Idea*, Steve Woolgar explains the connection between Wittgenstein and SSK in the following terms:

The call for a sociology of scientific knowledge attracted a lot of attention, not just because it proposed the sociological analysis of previously philosophical matters—the content and nature of scientific knowledge—but more significantly, because it emphasized the relativity of scientific truth. . . . In fact, this kind of relativity was no more than a particular case of a more widespread intellectual movement. In particular, SSK shows a marked affinity with a key notion in post-Wittgensteinian thought: skepticism about the view that practice (action, behavior) can be understood in terms of following rules (guidelines, principles). (Woolgar 1988, 45)

Scientific Knowledge, a recent textbook by three members of the Edinburgh Science Studies Program states that there are just two ways of "presenting the individual as an active agent in the context of the sociology of science." The first is

Bruno Latour's "actor-network" theory, which is briefly summarized before they turn to their preferred approach, which is "to characterize him or her as a participant in a form of life." They explain this expression in the following terms:

The term is Wittgenstein's, and its use here is testimony to the relevance of Wittgenstein's work, directly or indirectly, to the work of many sociologists. Those who have taken up the work of Thomas Kuhn have thereby linked themselves to Wittgenstein; so have those who have extended ethnomethods into sociology of science. Harry Collins, who makes the most frequent explicit references to forms of life in science, has used the work of the philosopher Peter Winch as a line of access to Wittgenstein's ideas. [Bloor's] finitist account of the use of scientific knowledge in this book is another version of the same position. (Barnes, Bloor, and Henry 1996, 116)

Indeed, Wittgensteinian terms such as "form of life" and, to a lesser extent, talk of "language-games" and "world pictures" have become so widespread in SSK, as in many other areas of the social sciences, that they are commonly used without any citation or explicit reference to Wittgenstein. A good example of the wider use of "forms of life" in SSK can be found in Shapin and Schaffer's much-discussed *Leviathan and the Air Pump*, where the term is explicitly connected with Wittgenstein, but it is used to refer to social interests:

We intend to display scientific method as crystallizing forms of social organization and as a means of regulating social interaction within the scientific community. To this end we will make liberal, but informal, use of Wittgenstein's notions of a "language-game" and a "form of life." We mean to approach scientific method as integrated into *patterns of activity*. . . . We shall suggest that solutions to the problems of knowledge are embedded within practical solutions to the problem of social order, and that differential practical solutions to the problem of social order encapsulate contrasting practical solutions to the problem of knowledge. (Shapin and Schaffer 1985, 14–15)

In each of these books, one would look in vain elsewhere for a more detailed interpretation of Wittgenstein's contribution; his role is that of a convenient canonical antecedent, rather than that of a live contributor to current debate. If one looks for a more detailed exposition of the grounds for this appeal to Wittgenstein in SSK, Bloor and Collins offer two of the most thorough bodies of work that address this topic.

Although nothing could have been further from Peter Winch's intentions, it was his interpretation of Wittgenstein in *The Idea of a Social Science and Its Relation to Philosophy* (1958) that proved to be the crucial link in the transformation of Wittgenstein's ideas about rule-following into a new sociology of knowledge.

Winch's reading of Wittgenstein on rule-following and skepticism provided the basis for Bloor's reading. (Bloor's indebtedness to Winch is most explicit in his earlier work, principally Bloor [1973]; for further discussion of the connections between Wittgenstein, Winch, and Bloor, see Stern [2000]). Both Bloor and Collins read Winch as showing that Wittgenstein appeals to the practices and conventions of particular social or cultural groups as an answer to a skeptical question about what it means to follow a rule. Winch's respect for the particularity of other forms of life, and the need to understand them from within, was enormously attractive to those who wished to approach scientific cultures along comparable lines, by combining Kuhn's notion of a paradigm with Winch's account of understanding another culture. The crucial move here was to conceive of the culture of a particular group of scientists—one of the senses of Kuhn's famously slippery term, "paradigm,"—along lines suggested, if not required, by Winch's discussion of forms of life. Bloor and Collins understand "forms of life" to refer to specific cultural or social groups, social entities comparable to the "primitive societies" discussed by Winch, or Kuhn's scientific research cultures. This way of understanding science as a culture led to a reading of Wittgenstein and Winch as providing the point of departure for a reinvigorated sociology of scientific knowledge.

In a section on "Wittgenstein and Rules," Collins sums up the sources of his reading of Wittgenstein as follows: "I take my interpretation of [Wittgenstein's] ideas from Winch (1958). For a very good introduction, see Bloor (1983)" (Collins 1985, 24 n. 9).

In particular, Bloor and Collins agree that to speak of sharing a Kuhnian paradigm or a Wittgensteinian form of life are two different ways of talking about the members of different cultural groups:

To use Kuhn's (1962) idiom, the members of different cultures share different "paradigms", or in Wittgensteinian terms, they live within different forms of life. (Collins 1985, 15)

What Wittgenstein called a "pattern of life" or a "form of life" can be thought of as a pattern of socially sustained boundaries. (Bloor 1983, 140)

While Bloor provided a more thorough and systematic interpretation of Wittgenstein as the principal philosophical antecedent of SSK, Collins's distinctive contribution was to provide detailed examples of how to do fieldwork on a practice-based approach. The principal methods he pioneered were sociological observation in the scientific laboratory and what became known as "controversy studies," which involved looking at every side of a disputed knowledge claim. Collins's principal case study of "normal science" in *Changing Order* concerns the role of skills and practices in the construction of TEA-lasers. The TEA-laser was chosen because

it was a new item of scientific equipment, but one that could be constructed out of readily available and relatively inexpensive components. As it could not yet be bought off the shelf, the task of assembling such a laser and getting it to work properly provided a convenient example of an everyday, but not yet routine, scientific task. In Collins's retrospective summary of the motivations for his research on the building of TEA-lasers, the connections with the work of Wittgenstein, Winch, and Kuhn can be seen very clearly:

In 1971, at the outset of these studies on lasers, the project was not envisaged as a study of replication but of knowledge transfer. The intention was to explore knowledge transfer in a manner informed by ideas drawn from the philosophy of social science and the history of science. The most important idea drawn from the philosophy of social science was that actors are to be understood as acting within a "form of life" (Winch 1958; Wittgenstein 1953). The idea was to have its counterpart, in the history of science, in the notion of "paradigm" (Kuhn 1962). With these ideas in mind the "communication network" of TEA-laser builders was explored. (Collins 1985, 171; compare n. 3)

Collins and Bloor both insist that their respective approaches of the sociology of knowledge are scientific, but their preferred conceptions of social science are different. Bloor, unlike Winch or Collins, has no qualms about conceiving of philosophy and social science as modeled on the natural sciences. Bloor's reading of Wittgenstein is behavioristic, while Collins's, drawing on Winch and Berger, is in the *Verstehen* tradition. However, Bloor and Collins do agree that forms of life amount to a sociological solution to skepticism about knowledge and thus provide the basis for a sociological solution to the philosophical problem of knowledge.

Bloor agrees with Collins that Winch's work leads to a strong form of relativism about logic and standards of appraisal, but he emphatically rejects the view that one should be a relativist about explanation. At the level of giving a causal explanation of belief, Bloor endorses a strongly naturalistic position: science, and a fortiori, the sociology of science, is committed to providing causal explanations. Thus, despite his relativism about standards of appraisal, Bloor is very far from being an "anything goes" epistemological anarchist: he maintains that there is a single scientific method that should be applied when determining why people believe what they do. Bloor's insistence on the importance of giving an objective and causal explanation of all belief is particularly clear in a paper coauthored with Barry Barnes, a colleague in the Edinburgh Science Studies Unit: "The position we shall defend is that the incidence of all beliefs without exception calls for empirical investigation and must be accounted for by finding the specific, local causes of this credibility. This means that regardless of whether the sociologist evaluates a

belief as true or rational, or as false and irrational, he must search for the causes of its credibility" (Hollis and Lukes 1982, 23). While Bloor is a relativist about reasons, he is an objectivist about explanation, and the two views are closely connected: the relativism about reasons is a direct consequence of his objectivism about explanation.

Collins's sociological methodology of "participant comprehension" is explicitly modeled on Peter Berger's method of "alternation": learning to move between different forms of life, seeing one as natural, and then another (Collins and Yearly 1992a, 301–2, 323–24; Berger 1963). Crucially, Collins's "empirical program of relativism" does not go all the way down. While he is ready to apply it to the natural sciences, in order to unsettle an unreflective realism about their authority and objectivity, he insists that it would be inappropriate for him to apply it to his own program of research in the sociology of science. His solution is to offer the principle of "meta-alternation." Just as alternation is a matter of being able to move from one culture to another, meta-alternation is the ability to move between a skeptical, external perspective engendered by moving between different scientific forms of life and an involved, internal standpoint on which one takes the reality of one's surroundings for granted (Collins and Yearly 1992a, 302). Meta-alternation provides Collins with a principled basis for compartmentalizing the realism and the skepticism in his work that might otherwise come into conflict. This is the "crucial reflexive insight" that allows him to "reexamine the nature of science while at the same time doing science": "Science—the study of an apparently external world—is constituted by not doing the sort of thing that the sociology of scientific knowledge does to science; the point cannot be made too strongly. Sociologists of scientific knowledge who want to find (or help construct) new objects in the world must compartmentalise; they must adopt the 'natural attitude' of the scientist and not apply their methods to themselves" (Collins 1992, afterword to 2d ed., 188).

With this background in place, we can now turn to the debate between Collins and Yearly and their critics in *Science as Practice and Culture*. Both sets of criticisms can be seen as a radicalization of certain aspects of the approach to SSK pioneered by Bloor and Collins. Woolgar argues that the sociology of science should not only give a sociological account of the content of natural science, but must also (reflexively) apply those very methods to the claims made by those who work within SSK. Callon and Latour deny that there is a sharp distinction between the natural and the social, highlighting the role of that distinction in SSK's program of giving a sociological account of natural science. Instead, they want to replace a dualism of social and natural facts, and the assumption that the social can be used to explain the natural, by a monistic ontology of "actors," whose properties are entirely determined by the "networks" they belong to. Woolgar, and Callon and

Latour, see their respective approaches as a natural and more consistent development of the claims of the Strong Programme. Callon and Latour argue that their approach is truly symmetrical (thesis 3), in contrast to Bloor and Collins's privileging of the social; Woolgar argues that his approach is truly reflexive (thesis 4), in contrast to Bloor and Collins's privileging of the sociological.

Collins and Yearly's reply to their critics is that they have betrayed the guiding insights of the Strong Programme by making them overly skeptical and relativistic. They characterize those who disagree with them as playing a dangerous game of "epistemological chicken": "The game of 'chicken' involves dashing across the road in front of speeding cars. The object of the game is to be the last person to cross. Only this person can avoid the charge of being cowardly. An early crosser is a 'chicken'" (Collins and Yearly 1992a, 301).

According to Collins and Yearly, their approach to SSK turns on using just enough skepticism to dislodge our ordinary acceptance of the everyday social world of "Mr. John Doe as he rides on the Clapham omnibus" (Collins and Yearly 1992a, 302) or the work world of scientific research communities. Because it unsettles the natural attitude of the everyday bus rider or laboratory scientist, their moderate relativism provides a "tenable . . . methodology for the study of science" (Collins and Yearly 1992a, 303). But, they continue, there is no need to be relativists about the account they offer of natural science, one on which its content is to be understood in terms of the causal role of certain social facts, namely the scientists' interests. Invoking the principle of meta-alternation, they reply that it is essential to compartmentalize the skeptical stance, so that it does not affect their own work. This is where their critics have cried "chicken," seeing an inconsistency between Collins and Yearly's use of relativism to disqualify the reasons that natural scientists offer for doing what they do and their refusal to be relativists about their own reasons.

Collins and Yearly's reply amounts to saying that sticking around when a speeding car is coming down the road is asking for trouble. When the only alternative is to become roadkill, any sensible chicken will cross the road as quickly as possible: "In the absence of decisive epistemological arguments, how do we choose our epistemological stance? The answer is to ask not for the meaning, but for the use. Natural scientists, working at the bench, should be naïve realists—that is what will get the job done. Sociologists, historians, scientists away from the bench, and the rest of the general public should be social realists. Social realists must experience the social world in a naïve way, as the day-to-day foundation of reality" (Pickering 1992a, 308).

Unfortunately for Collins and Yearly, expediency is hardly a promising basis for a principled resolution. How are they and their colleagues to account for the

privileged status they give to their preferred way of doing SSK? Just as Bloor and Collins turned Winch and Kuhn into the predecessors they needed, those who learned the most from them would repay them by turning their methods against them. In this case, the principle of symmetry was the primary locus of disagreement. Bloor and Collins are both committed to a sharp distinction between social facts and natural facts, social science and natural science. However, once one has turned a skeptical eye on the taken-for-granted procedures of the natural sciences, what is to prevent Woolgar, Callon, and Latour from turning an equally skeptical eye on the methodology of SSK itself? Do not the principles of symmetry and reflexivity require that we treat the sociology of science with the same skepticism as natural science? Can we take the procedures of Bloor's or Collins's versions of SSK for granted and at the same time treat the other sciences as social constructions that must ultimately be explained by an appeal to social interests? How can we rely on social facts in order to explain the construction of natural facts without applying the same procedures to the reliance on close description of "forms of life" and the history of scientific controversies that are SSK's preferred explanatory starting points? SSK casts doubt on the objectivity of reason-based theories of belief in order to replace those theories with a supposedly more objective causal account (Bloor) or a participant observer account (Collins). But since these notions are just as open to skeptical challenge as the explanatory strategies that they are supposed to replace, we are no better off than before. Paul Roth aptly sums up their predicament as follows: "Faced with a demand to substantiate the legitimacy of their approach, Collins and Yearly turn from bold challengers to reactionaries, much in the manner of positivists who could neither justify the verifiability principle nor bring themselves to give it up. In their case, they can neither legitimate the status given [their preferred solutions] nor give them up" (Roth 1994, 99; compare 1996, 56, 60.) Wittgenstein's philosophy held out the promise of a *deus ex machina* for Bloor and Collins, a universal skeptical solvent that would dissolve all competing programs, coupled with a theory of practice that would provide a firm objective basis for their own form of sociology of science. Like the sorcerer's apprentice, who tried to get his job done by borrowing a word of power from a venerable authority, it was much easier for the founders of SSK to get the skeptical argument started than to stop it where they wanted.

It is at this point that it is instructive to turn to the parallels between the philosophers' debates over the *Tractatus* and sociologists' debates over the *Investigations*. Both turn on issues of method and are pitched at an extremely abstract level, and both concern the correct understanding of Wittgenstein's way of doing philosophy. Generations of philosophers have turned the crystalline but obscure text of the *Tractatus* into congenial ontological and logical doctrines; contemporary

sociologists of science have turned the conversational but elusive text of the *Investigations* into a validation of their preferred variety of social theory. In both cases, texts which are centrally concerned with problems of philosophical method and the question of whether it is possible to provide an objective, external validation for one's philosophical convictions are turned into one more argument in support of such a validation (compare Friedman [1998] for a more extensive discussion of this issue.)

In both cases, cries of "chicken" can be heard. As we have seen, in Diamond's hands it is an accusation of cowardice, of lacking the courage to stick to a single approach, and also indecisiveness, an inability to choose between one approach and the other. Diamond advocates that we be consistent and resolute, following through the approach outlined in the frame of the *Tractatus*, even as it leads to a thoroughgoing skepticism about any philosophical theory whatsoever. Her critics respond that the price of such foolhardy bravado—not stepping out of the way of the skeptical juggernaut—is to become the philosophical equivalent of roadkill. In the case of the disputes over SSK, Woolgar, Callon, and Latour occupy the position analogous to Diamond's. They claim they are consistently applying SSK's symmetry principle, while Bloor, Collins, and Yearly chicken out of applying its skeptical consequences to themselves in order to protect their own doctrines from dissolution.

We saw earlier that Diamond's critics can argue that the therapeutic approach leads to a dilemma: either it amounts to giving up doing philosophy altogether or it tacitly reinstates a positivistic philosophy of language. Collins and Yearly argue that a more consistent application of skepticism to SSK leads to a similar dilemma. One of the alternatives is to apply the skepticism to one's own methods, in which case one stays in the road and gets run over. The other is to jump out of the way of the speeding car—the skeptical refutation—at the last minute, in which case one is really no different from those who stepped out of the traffic a little sooner. What both sides of the "chicken wars" in the sociology of science fail to see is that Wittgenstein's principal target in his later philosophy is the very idea that they take for granted in making use of his work, namely the idea that we can take up a detached scientific stance on our normative commitments, whether it be to validate them or to undermine them.

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